

**REMARKS**

Claims 11-13 and 16-18 are rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter. In response thereto, Applicants have amended several claims to address the issues raised by the Examiner. Accordingly, all of the claims are now deemed to be in full compliance with 35 USC §112.

Claims 11-13 and 16-18 are rejected under 35 USC §102(e) as being anticipated by Kadota et al., U.S. 2001/0034115.

Applicants respectfully traverse the rejection.

Independent claims 11 and 16 have now been amended to recite an annealed p-type ZnO layer directly positioned on the n-type ZnO layer, the annealed p-type ZnO layer uses an intrinsic donor to increase donor concentration and to obtain high impurity acceptor density of an acceptor doped material, the intrinsic donor is removed during annealing.

In contrast, claims 11 and 16 recite an annealed p-type ZnO layer using an intrinsic donor to increase donor concentration and to obtain high impurity acceptor density of an acceptor doped material, the intrinsic donor is removed during annealing. Kadota et al. '115 describes technique for forming a p-type semiconductor film in particular using a substrate and a group II-VI compound semiconductor film which is doped with a p-type impurity using either N or As. Kadota et al. '115 only describes using N or As as an acceptor but no mention of using intrinsic donors which is removed after annealing.

Moreover, the Examiner wrongfully provided no patentable weight to the phrases "annealed n-type ZnO layer" and "annealed p-type ZnO layer" on the basis that they are product

by process claim limitations. In *Hazani v. U.S. Int'l Trade Comm'n* (1997)<sup>1</sup>, certain “process words” in claims are interpreted as structural limitations when they are used in an adjective non-process sense. In that matter, the court held the term “chemically engraved” described the product more by its structure than the process itself. The term “annealed”, as used in accordance with claim limitations annealed n-type ZnO layer and annealed p-type ZnO layer, is an adjective used in a non-process sense to describe a structure. Also, the term “annealed” is used to describe a structure then the process of making that structure, in essence, the annealed n-type and annealed p-type ZnO layer were actually annealed. If the structure is not annealed the invention cannot work.

The Examiner is reminded that product by process limitations can be allowed given that there are new structural terms. In the matter of *In re Garnero*, the court ruled the mere presence of a method limitation in an article claim which is otherwise allowable would not so poison the claim as to render it unpatentable.<sup>2</sup> In this present application, the new structural elements are the annealed n-type ZnO layer and annealed p-type ZnO layer which Kadota et al. '115 does not teach or suggest.

Kadota et al. '115 does not anticipate independent claims 11 and 16.

As to claims 12-13 and 17-18, they are dependent on claims 11 and 16, respectively. Therefore, claims 12-13 and 17-18 are also allowable for the same reasons argued with respect to claims 11 and 16.

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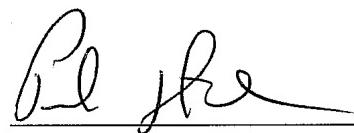
<sup>1</sup> *Hazani v. U.S. Int'l Trade Comm'n*, 126 F.3d 1473, 44 USPQ2d 1358 (Fed Cir. 1997).

<sup>2</sup> *In re Garnero*, 412 F.2d 276, 279 n. 8, 162 USPQ 221 (CCPA 1969)

In view of the above amendments and for all the reasons set forth above, the Examiner is respectfully requested to reconsider and withdraw the rejection made under 35 U.S.C. §§102 and 112, second paragraph. Accordingly, an early indication of allowability is earnestly solicited.

If the Examiner has any questions regarding matters pending in this application, please feel free to contact the undersigned below.

Respectfully submitted,



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